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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Gerard Terreault

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EXAMINER

MEEK, JACOB M

ART UNIT

PAPER NUMBER

2637

3

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,837

Applicant(s)

TERREAU ET AL.

Examiner

Jacob Meek

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13- 18 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show operation of methods as described in the specification. There are no flowcharts demonstrating the operation of the method claimed by the applicant. Also, while referred to in claim and the specification the use of a receiver, a equalizer, and a spectrum analyzer is not supported in the drawings illustrating the use of these functions / functional blocks. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure. Word count of abstract is 220 and seems to contain undue details of the operation of the system.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 1 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The steps of claim 1, storing, analyzing and displaying could be accomplished using pencil and paper along existing test equipment, therefore it is deemed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Pottinger et al (4,918,708). Pottinger states that his system is useful for 64-QAM and 256-QAM measurements.

Claim 1 is rejected as being anticipated by Pottinger et al which:

(a) stores a statistically significant number of a plurality of received points (Constellation Samples (x,y) Output of Figure 7 and Appendix (Column 12, line 7 through column 13 line 62)) (see Figure 7, Compare Samples to Thresholds block); (b) analyzes said components of said received points of respective of said groups (see Figure 7 System Model block and Compute Mean Square block and calculation techniques as described in Column 6, lines 25 – 67; Column 7, 1 – 68; and Column 8, 1-56); (c) and displays said calculated values of said impairments (see Figure 4A, 4B, 4C, 5, and 6).

Claim 2 is rejected as being anticipated by Pottinger et al. Pottinger shows an HP-IB interface in Figure 3B (82) which is used to remotely control and access system data for the remote monitoring of signals.

Claim 3 rejected as being anticipated by Pottinger et al. Pottinger describes the measurement of compression ratio (Column 4 line 54 - 55), I/Q gain imbalance ratio (Column 4 line 56), I/Q phase imbalance (Column 4 line 50 -52), phase noise (Column 4 line 50 –52, 56), signal to noise ratio (column 10, lines 49 - 48), signal to interference ratio (Column 4 line 53) and clipping level (Column 4 line 54 - 55).

Claim 4 is rejected as being anticipated by Pottinger et al. Pottinger teaches a plurality of ideal values being distributed around an origin of said coordinate system in a plurality of adjacent rows and columns forming a square shape pattern (see Figure 5), said rows and columns being in a direction of said in-phase axis and said quadrature axis respectively.

Claim 5 is rejected as being anticipated by Pottinger (see Figures 4B, 8, and 9) for the measurement of signal compression ratio impairment, and which displays the gain compression ratio and is described in Appendix (Column 12, line 7 through column 13 line 62).

Claims 6 is rejected as being anticipated by Pottinger (see Figures 4C, 8, and 10) for the measurement and display of I/Q gain imbalance ratio impairment and described by Column 4, lines 48 – 58, Column 7 line 43 through Column 13, line 32 and Appendix (Column 12, line 7 through column 13 line 62).

Claims 7 is rejected as being anticipated by Pottinger for the measurement and display of I/Q phase imbalance impairment (Figures 4A, 4C, 8, and 9), and described in Column 4, lines 48 – 58, Column 7 line 43 through Column 13, line 32 and Appendix (Column 12, line 7 through column 13 line 62).

5. Claims 14 - 18 rejected under 35 U.S.C. 102(b) as being anticipated by Kletsky et al. (5,751,766)

Claim 14 rejected as being anticipated by Kletsky for detecting and quantifying parameters of a received communication signal of a quadrature amplitude modulation data communication system represented by a specific coding, signal parameters are selected from a group including real baud rate, real carrier frequency, amplitude and group delay response, and low frequency disturbance (hum), (see Column 7, lines 55 – 62) method comprising the steps of: storing a statistically significant number of a plurality of operating parameters available and extracted from a signal demodulator of a receiver of said signal (Column 7, lines 49 – 51);

analyzing f operating parameters to quantify signal parameters of and provide calculated values of the same(column 7 lines 52 – 54); integrally said calculated values of signal parameters.
(see Column 7, lines 55 – 62)

Claim 15 rejected as being anticipated by Tsui for the calculation of MPEG word rate and real baud as described in Column 6, line 37 – 51 and Figure 3. Tests are understood to be based on ITU-R J83 Annex B.

Claim 16 rejected as being anticipated by Tsui providing measurements of carrier frequency as described Column 13, lines 34 – 46 and Figure 8B.

Claim 17 rejected as being anticipated by Tsui which provides measurements of amplitude and group delay by analyzing the characteristics of the received signal as described in Column 12, line 50 through Column 14, line 45).

Claim 18 rejected as being anticipated by Tsui which provides a “HUM” measurement by analyzing the presence of 60 Hz and 120 Hz noise imposed on a channel as described in Column 13 lines 22 – 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8 – 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsui (6,278,730) in view of Pottinger (4,918,708).

Claim 8 is rejected as being unpatentable over by Tsui in view of Pottinger. Tsui teaches the concept of phase noise measurement (Figure 3, column 6 lines 1 – 4). Tsui fails to

teach the details of the implementation of his phase noise measurement. Pottinger teaches a method for calculating phase errors as described in Column 9, line 7 through Column 13, line 62 and Appendix (Column 12, line 7 through column 13 line 62)). It would have been obvious to one skilled in the art to take Pottinger's single channel design and combine it with Tsui's multi-channel design to devise a test set that could measure the system response of a broadband system.

Claim 9 is rejected as being unpatentable over by Tsui (6,278,730) for the measurement of both signal to noise ratio and signal to interference ratio impairments (shown in Figure 7G and described by blocks 772, 774).

Claim 10 is rejected as being unpatentable over by Tsui (6,278,730) wherein in step b9) said best match values being statistically determined using a least mean square method, and said true standard deviation and true offset being determined using linear interpolation method as taught in Column 8 lines 5 - 20.

Claim 13 is rejected as being unpatentable over Tsui (6,278,730) wherein said method being non-intrusive of said signal and adapted for an in-field signal detection at a receiver end of said data communication system, said statistically significant number being between eight thousand and sixteen thousand. Tsui teaches the use of in-service monitoring of digital communications system (See abstract) and the sampling and analysis of data (Figure 2A, Column 6 lines 25 - 30).

Allowable Subject Matter

7. Claims 11, 12, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (703) 305-8953. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (703) 308-7728. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM


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PRIMARY EXAMINER